spray or drip, and a fan to cool by evaporation may be used in hot, dry weather. The diminution of protein food, which stimulates metabolism and heat production, is indicated. Monkeys fed on rice and ripe bananas stand exposure to tropical sun out of doors. The taking of vigorous outdoor exercise keeps men much fitter in the Tropics than women shut up and cooking in houses. The body weight can be diminished to six-tenths of the pre-war figure safely, according to German reports on the effect of the blockade on the civilian population. A diminution particularly of heavy weights in the Tropics is an obvious advantage, the surface exposure being thus increased in proportion to the mass of the body.

In England belief in the open or gas fire as a source of radiant warmth is justified. The moist, misty, mild weather is thus counteracted. Gas fire must replace coal fires to secure economy of coal energy and remove the pall of smoke, dirt, and destruction of vegetable life from the towns and the great loss of health and wealth these entail. The theory that chemical purity of the air is the one important thing has permitted the establishment of slum cities, underground places of business, office rooms lighted by wells, etc.

It must be realized that the carbonic acid is never increased or the oxygen reduced in crowded rooms so as to harm, to the least extent, the occupants. Moreover, after exhaustive experiments by physiologists, proof is not forthcoming of those subtle organ poisons supposed to be exhaled by human beings. Massive saliva spray infection from carriers of pathogenic germs, and the physical state of the atmosphere depressing the vitality, these are the agents which cause ill health.

The garden city provides outdoor exercise to be taken in games and gardening, and the interests natural to most men of perfecting the homestead and raising stock and plants. Rabbits and fowls yield protein food, goats yield milk, and this and the green foods secure ample supplies of essential amino acids and vitamines. The man with his eight-hour day at the factory has his leisure filled in by productive work and he and his family are kept well fed, exercised, interested, healthy, and happy. The garden city with its factories is the main solution of health troubles of civilized people. With the garden city must go discipline, through education of the young, in the simple ways of keeping fit and enjoying life.

NOTE IN REGARD TO INDOOR AND OUTDOOR HUMIDITY.

In the discussion of indoor and outdoor humidity and temperature and its relation to disease and health, found on page 504 of the MONTHLY WEATHER REVIEW for September, 1920, the following points seem to have been overlooked:

(1) The kind of indoor heat is not stated, whether steam, direct-indirect, hot air, or stove. The "common home" is usually heated by stove or by hot-air furnace. Country schools are heated by stoves. The fluctuations of temperature and humidity would be greater with such heat and would more nearly correspond to those outdoors.

(2) Practically all the indoor temperatures cited are above what has been accepted as the optimum for human health and for mental activity, viz, 65 to 68°. New York State institutions are now required to keep the temperature at this figure. The data cited would seem to indicate that the heat was by steam and the temperature intended to be kept at about 73°. It ran up as high as 89°; the lowest was 64° F.

(3) The relative humidities are correspondingly below the optimum.

(4) If the indoor temperature is kept near the optimum of 65 to 68°, the indoor relative humidity will be higher; the body will not be constantly overheated; there will be less contrast between outdoor and indoor temperature. Sweating of the room walls will be much less apt to occur when the indoor humidity is high.

(5) Movement of the air in the room is a factor that is important to comfort and health.—*John R. Weeks.*

NOTE IN REGARD TO THE PRIMARY CAUSE OF COLDS.

It would seem that the conclusions of Dr. C. M. Richter, in 1913, quoted in the MONTHLY WEATHER REVIEW for September, 1920, page 507, in regard to the primary cause of a "common cold" are not in accord with the most recent medical thought.

The expired air from the lungs is normally near the saturation point when it passes over the mucous membranes of the nose and throat, therefore saturated air, per se, can not cause a discharge from and congestion of the mucous membranes. The air commonly enters dry and passes out moist; therefore it can not be a change from dry to moist air, per se, that would cause coryza. Even the hyperesthetic membrane is accustomed to these differences.

In recent studies of ventilation the effects of breathing saturated and humid air for varying periods have been observed. Breathing warm, saturated air *while the body is immersed in it* raises the body temperature, causes discomfort, and is injurious if there is no air circulation, but has not, I believe, been shown to cause irritation and hypersecretion in the mucous membranes of the nose and throat. Similarly, experiments have shown that chilling of the body surface causes an ischemia (anæmia) of the mucous membranes of the nose and throat instead of a hyperemia as was formerly supposed.

It may be suggested in explanation of the observed greater prevalence of colds with cyclonic weather that previous dry weather has made dust which the winds have carried from the streets to our nostrils and throats, causing mechanical irritation and bacterial implantation and growth. An amplification of this phase of the subject is given by Dr. Oliver T. Osborne, professor of therapeutics at Yale University, in an excellent article on the "common cold" that appears in the Handbook of Therapy, third edition, published by the Journal of the American Medical Association.

If we define a "common cold" (acute coryza) as an inflammation and congestion of the mucous membranes of the nose and throat, then the best medical evidence is that a "common cold" is in the great majority of cases caused by bacterial invasion. If we ask what causes or allows bacterial invasion, the answer is too long, diversified, and complicated for these pages.—*John R. Weeks.*

CLIMATE AND HEALTH, WITH SPECIAL REFERENCE TO THE UNITED STATES.[1]

By ROBERT DE C. WARD.

[Presidential address before the American Meteorological Society at Chicago, Dec. 29, 1920.]

(Author's Abstract.)

In the statement of the objects of the American Meteorological Society, the relation of meteorology to the

[1] To be published partly in the *Scientific Monthly* and partly in the *Boston Medical and Surgical Journal.*